

NOTEWORTHY COLLECTIONS

BRITISH COLUMBIA

SPIRANTHES DILUVIALIS SHEVIK (ORCHIDACEAE).—Southern Okanagan Valley, alkaline marsh, east shore of Osoyoos Lake, Oliver Indian Band Reserve, elev. 300 m, 11 August, 2006, *Björk 13671* (photo voucher housed at UBC), verified by Charles Sheviak; Southern Okanagan Valley, alkaline marsh, Mahoney Lake 49° 17'N, 119° 34'W, elev. 550 m, 12 August, 2006, *Björk 13672* (photo voucher deposited at UBC).

Previous knowledge. A rare species of the central and western United States, where it is listed as Threatened by the U.S. Fish and Wildlife Service (Fertig, W., R. Black & P. Wolken. 2005. Rangewide Status Review of Ute Ladies'-Tresses (*Spiranthes diluvialis*). http://www.fws.gov/mountain-prairie/species/plants/uteladiestress/SPDI_Status%20review_Fertig2005.pdf Accessed 10 October, 2007.). Most populations are concentrated in the Rocky Mountains as far north as eastern Idaho and southwest Montana, but three outlier populations were recently discovered in Washington State, one of which is in the Okanogan Valley just south of the Canadian border.

Significance. First record for British Columbia and Canada, and a range extension of about 20 km northeast of the northernmost Washington population. Only a single plant was found at the Osoyoos Lake site, and six plants at Mahoney Lake. Several other regionally rare species are present at the Osoyoos Lake site, including some that are found nowhere else in Canada.

ELEOCHARIS GENICULATA (L.) ROEMER & SCHULTES (CYPERACEAE).—Southern Okanagan Valley, mud flats near east shore of Osoyoos Lake, Oliver Indian Band Reserve, elev. 300 m, 12 August, 2006, *Björk 13673* (UBC).

Previous knowledge. A widespread species of tropical and warm temperate regions. In America north of Mexico, *E. geniculata* is known from a scattered range across the southern and eastern portions of the United States, north to Ontario (Menapace, F.J. 2002. *Eleocharis* R. Brown (subg. *Eleocharis* sect. *Eleogenus*) ser. *Maculosae* in Flora of North America Editorial Committee. Flora of North America. Vol. 23. New York. Oxford University Press. 640 pp.).

Significance. First record for British Columbia. Our record of this plant comes from the same site as historic reports of *Eleocharis atropurpurea*. The close similarity of that species to *E. geniculata* and our inability to find *E. atropurpurea* in two summers of searching in the landscape from which it was historically reported led us to believe that *E. atropurpurea* was misapplied to this population of *E. geniculata*. Examination of the historical collections (1939, 1991) and of our 2005 and 2006 collections and comparison with specimens of both species from the Jepson Herbarium support that the species that has been previously collected at Osoyoos and is still extant there is *E. geniculata*. Since Osoyoos Lake was the only known location in British Columbia and Canada for '*E. atropurpurea*', we believe that species should be removed from lists of plant species native to the province and the country and

replaced by *E. geniculata*. Despite the often weedy habit of *E. geniculata*, we believe that it is native at the site since it grows there with a large number of other wetland plants characteristic of warm-temperate climates, and since collections previously thought to be *E. atropurpurea* were made very early at Osoyoos Lake (1939), before the advent of most nonnative plant invasions in southern British Columbia.

LIMOSELLA ACAULIS SESSÉ & MOCIÑO (PLANTAGINACEAE).—Southern Okanagan Valley, mud flats near east shore of Osoyoos Lake, Oliver Indian Band Reserve, elev. 300 m, 12 August, 2006, *Björk 13674* (UBC).

Previous knowledge. Western United States and Mexico (Wetherwax, M. 1993. *Limosella* in Hickman, J.C., ed. 1993. Jepson Manual: Higher Plants of California. Berkeley. University of California Press. 1424 pp.). It is uncommon in Washington in the northwestern United States, and was only recently first discovered for Idaho (Björk unpublished).

Significance. First record for British Columbia and Canada and a range extension of 250 km north from the nearest populations in Washington.

CRYPISIS ALOPECUROIDES (PILLER & MITTERP.) SCHRAD. (POACEAE).—Southern Okanagan Valley, mud flats near east shore of Osoyoos Lake, Oliver Indian Band Reserve, elev. 300 m, date 12 August, 2006, *Björk 13675* (UBC).

Previous knowledge. Native to warm-temperate Eurasia, south to northern Africa and Iraq (Hammel, B.E. & J.R. Reeder. 2003. *Crypsis* in Flora of North America Editorial Committee. Flora of North America. Vol. 25. New York. Oxford University Press. 783 pp.). A widespread introduction in the western United States, previously known as far north as Spokane County, Washington (Björk unpublished).

Significance. First record for British Columbia and Canada for this species and genus. It forms dense populations in mud flats that are of high conservation priority due to the large number of nationally rare species.

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CIRSIMUM FLODMANII (RYDB.) ARTHUR (ASTERACEAE).—Southern Okanagan Valley, sagebrush steppe NW of White Lake, lat/longs 49° 18'N, 119° 39'W, elev. ~600 m, 11 August, 2006, *Björk 13990* (UBC).

Previous knowledge. Central North America from the Canadian Prairie Provinces south to Colorado and Minnesota (Keil, D.J. 2006. *Cirsium* in Flora of North America Editorial Committee. Flora of North America. Vol. 19. New York. Oxford University Press. 610 pp.), with an outlier population in the Okanogan Valley of Washington (Björk unpublished).

Significance. First record for British Columbia and a range extension of 120 km north from the single Washington population. Possibly previously over-

looked probably due to the species' close resemblance to the common and widespread *C. undulatum*. Apparently native and one of a significant number of Great Plains and Rocky Mountains species that are disjunct in the Okanagan.

VIOLA ADUNCA SM. VAR. *CASCADENSIS* (BAKER) C.L. HITCHCOCK (VIOLACEAE).—Southern Okanagan Valley, interface of ponderosa pine forest and salt-flat vegetation at the north end of Mahoney Lake, 49°17'N, 119°35'W, elev. 550 m, 11 August, 2006, *Björk 13991* (UBC).

Previous knowledge. East slopes of the Cascades and the Okanagan Valley, in Washington and Oregon (Hitchcock, C.L., & A. Cronquist. 1973. *Flora of the Pacific Northwest: an Illustrated Manual*. Seattle. University of Washington Press. 730 pp.).

Significance. First record for British Columbia and Canada and a range extension of about 20 km. This is a distinct variety, but is seldom recorded as the variety, so its rarity is difficult to assess.

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ANTENNARIA CORYMBOSA E. NELS. (ASTERACEAE).—Cariboo Mountains, margin of *Carex utriculata* fen, headwaters of the Blue River, 52°04'N, 119°33'W, 1000 m elev., 24 July, 2004, *Björk 9415* (UBC).

Previous knowledge. Western United States, mostly in the Rocky Mountains (Bayer, R.J. 2006. *Antennaria* in *Flora of North America* Editorial Committee. *Flora of North America*. Vol. 19. New York. Oxford University Press. 610 pp.).

Significance. First verified record for British Columbia and Canada and a range extension of about 450 km from the nearest population in northeast Washington. This is an ecologically distinctive species, being one of few in the genus that can tolerate the wet, peaty soil of marshes and fens.

FESTUCA WASHINGTONICA E.B. ALEXEEV (POACEAE).—Southern Okanagan Valley, Grassland-woodland mosaic, Richter Pass, southeast slopes of Mount Kobau, 49° 06'N 119° 37'W, 1200 m elev., verified by Stephen Darbyshire.

Previous knowledge. East slopes and foothills of the Cascade Mountains in Washington State (Darbyshire, S. 2007. *Festuca* in *Flora of North America* Editorial Committee. *Flora of North America*. Vol. 24. New York. Oxford University Press. 944 pp.), known from few populations scattered between Rattlesnake Mountain in Franklin County, north to near Loomis in Okanagan County (Björk unpublished).

Significance. First valid record for British Columbia and Canada, and a range extension of about 30 km north of the northernmost Washington population. Very few individuals were present, but the species tends to grow at elevations higher than 1200 m, so the collection site might represent the lower edge of a larger population. In Volume 24 of the *Flora of North America*, the presently cited specimen was the basis for a British Columbia dot on the distribution map, but the dot appears on Vancouver Island, where this species would not likely find suitable habitat.

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CALIFORNIA

ALLOPHYLLUM DIVARICATUM (NUTT.) A. D. Grant & V. Grant (POLEMONIACEAE).—Riverside Co., Peninsular Ranges Province, San Jacinto Mountains region, upper Tahquitz Valley, elev. 2408 m (7900 ft.), 19 Jul 1933, *Dunkle 3675* [det. A. Day, 1980] (RSA); San Jacinto Mountains, burned slope in chaparral on Banning-Idyllwild Rd., elev. 914 m (3000 ft), *McKinley 680305-4*, 4 May 1968 (UCR); trail to Spitzer Peak from Hurkey Creek Campground, Bonita Vista Rd., T5S R3E N1/2 Sec. 35, elev. 1707 m (5600 ft), growing in chaparral and yellow pine forest, 1 Jun 1986, *Sanders 6548* (UCR); N side along Hwy 243, 1.5 mi. below Twin Pines Ranch Road (McMullen Flat), N slope of peak, 33°53.1'N, 116°51.5'W, T3S R1E SW/4 S23, elev. 1067 m (3500 ft), 4 May 1997, *Sanders et al. 20633* (UCR, RSA); along Hwy 243, 1–2 mi. below Mt. Edna turnoff, 14 May 1988, *Harper s.n.* (RSA); near Mountain Center, unnamed ephemeral drainage, tributary to S Fork, San Jacinto River, Idyllwild, 33° 41.5'N, 116°44'W, T5S R2E S36, SW, elev. 1402–1463 m (4600–4800 ft), 5 Aug 2000, *White 8113* (RSA); Peninsular Ranges Province, Agua Tibia Mountains region, SE of Temecula, Cleveland National Forest, Agua Tibia Wilderness, NW slope of Agua Tibia Mountain, ca. 1.5 mi WNW of Woodchuck Rd., USGS 7.5' Pechanga Quadrangle, UTM (NAD 83) 11S 0497415E 3699899N, elev. 665 m (2180 ft), locally common to widely scattered in open oak riparian forests and on sandy benches along unnamed blueline stream, 31 Jul 2005, *Riefner 05-573* [annotated J. M. Porter, 2005] (RSA). San Diego Co., Peninsular Ranges Province: W slope of Agua Tibia Mountains, headwaters of Pala Creek, USGS 7.5' Pechanga Quadrangle, UTM (NAD 83) 11S 0494408E 3698202N, elev. 488 m (1600 ft), widely scattered on sandy benches in mesic chaparral, 3 Jul 2005, *Riefner 05-542* [annotated J. M. Porter, 2005] (RSA).

Previous knowledge. *Allophyllum divaricatum* (purple false-gilia) occupies sandy areas in chaparral and woodlands from 300–1800 m in the Klamath Ranges, Inner North Coast Ranges, South Cascade Ranges, Sierra Nevada Foothills, San Francisco Bay Region, South Coast Ranges, and the Transverse Ranges (Day 1993, in Hickman, ed., *The Jepson Manual: Higher Plants of California*, University of California Press, Berkeley, CA).

Significance. First reports of *A. divaricatum* documented from the Peninsular Ranges Province (Day 1993 *loc. cit.*). In addition, the collections from the Agua Tibia Mountains represent the first documented records for western Riverside County and San Diego County (Banks 1999, *A Vascular Flora of the Agua Tibia Mountains*, Southern California, Rancho Santa Ana Botanical Garden Occasional Publications No. 4, Claremont, CA; Roberts et al. 2004, *The Vascular Plants of Western Riverside County, California: An Annotated Checklist*, F. M. Roberts Publications, San Luis Rey, CA; Rebman and Simpson 2006, *Checklist of the Vascular Plants of San Diego County*, ed. 4, San Diego Natural History Museum, San Diego). The occurrence of *A. divaricatum* in low-elevation canyons